Standard Market Design 101

How FERC's Standard Market Design (SMD) Proposals May Affect Energy Markets

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FERC 101

- Has jurisdiction over interstate gas pipelines and gas markets.
- Has jurisdiction over interstate electricity markets, but not transmission.
- Sets rates of return, market rules and procedures, approves pipeline sites and wholesale rates.
- Hears appeals of violations
  - Access
  - Pricing

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How does FERC set policy?

- Case-by-case decisions and appeals, like courts, establish new rules and procedures. The sheer volume of similar cases drives FERC to propose new policy to reduce its workload (infrequent).
- New policies are "floated" for comment through a Notice of Proposed Rulemaking (NOPR).
- Major policy initiatives result in so-called Mega NOPRs.

Wholesale Market Reform 101

- Started with Congressional deregulation of natural gas prices.
- Market-based commodity prices are meaningless unless transportation is readily available.
- FERC required gas pipelines to make capacity available to gas marketers.
- Gas market rules "worked" and FERC saw parallels for electricity. Plus, Congressional actions led to partial deregulation of wholesale electricity markets and a large increase of cases to FERC.

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Electricity Market Reform 101
(Mega-NOPRs of note)

- 1996- FERC issues Orders 888/889 requiring "open access" to transmission and encouraging ISOs: To address bottlenecks in competitive wholesale power markets.
- 1999- FERC issues Order 2000 requiring RTOs: To streamline and improve markets and market access due to continued control of transmission by utilities.
- 2002- SMD proposal: To address market power concerns, market manipulation and monitoring, and institute "uniform" market rules and procedures nationally.

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What Will SMD Do?

- Adopt a single "network service" transmission tariff
- Extend FERC's reach to retail transmission rates
- Requires Independent Transmission Providers (ITPs)
- ITP will administer day-ahead and RT energy and AS markets in conjunction with the network tariff.
- Establish an "access charge" to recover embedded transmission costs.
- Implement LMP to manage congestion
- Create tradable financial rights ("congestion revenue rights")
- Establish procedures to assure resource adequacy
- Establish procedures to monitor and mitigate market power
- Require ITP to prepare long term load/resource plan
- Establishes Regional State Advisory Committees
- Clarify system security obligations

New "Network Service" Tariff

- Replaces current "network" and point-to-point tariffs
- Allows single transmission charge
  - Postage stamp rate
  - License plate rate
- Single tariff reduces "gaming" opportunities, but increases risk of congestion
- Common tariff design facilitates transactions across multiple networks ("seams"), potentially leading to a "national" electricity market

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Extend FERC's reach to retail transmission rates

- Currently, State PUCs and utilities set retail transmission rates.
- FERC is pre-empting that authority to create "orderly" interstate market.
- Allows FERC to add "incentives" to rates to encourage transmission investment.
- A "retail access charge" will cover costs of current transmission (set by PUC).
- This is hotly contested.

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Requires Independent Transmission Providers (ITPs)

- ITPs are new institutions (or a new role for existing ones - ISOs, RTOs).
- FERC's RTO Order did not result in uniform institutions or operating procedures, as it hoped.
- SMD has clearer requirements for the ITP function.
- RTOs and ISOs may be ITPs, but utilities & ITCs (Transcos) cannot.

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ITP will administer "spot" markets as well as the network tariff

- ITP will be "tariff administrator" (apply tariff and collect transmission access fees).
- It will run "day ahead" and "real time" markets for:
  - Imbalance energy (difference between projected and actual loads on an hourly basis)
  - Ancillary services.
- Demand will "compete" in these markets on par with supply.
- Assumption is that 50-90% of supply will be under LT contracts. (CA made same assumption.)

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Establish an "access charge" to recover embedded transmission costs.

- Utilities have to recover costs of current transmission.
- Cost obligation varies by utility, potentially leading to non-uniform transmission rates.
- Retail customers will pay an "access charge" to repay current embedded utility costs.
- Because these costs will be paid by retail customers, they will be transparent to the wholesale market and won't undermine "standard tariff" objective.

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Implement LMP to manage congestion

- Locational Marginal Cost pricing is a means to ration transmission capacity based on price.
  - Constraints are priced at marginal cost of "local" generation (see next chart)
  - "Through" transactions can cause constraints that drive up costs to native load (102 chart)
  - Thus, the need for a price hedge on constraints if you want fixed rates (103 chart)

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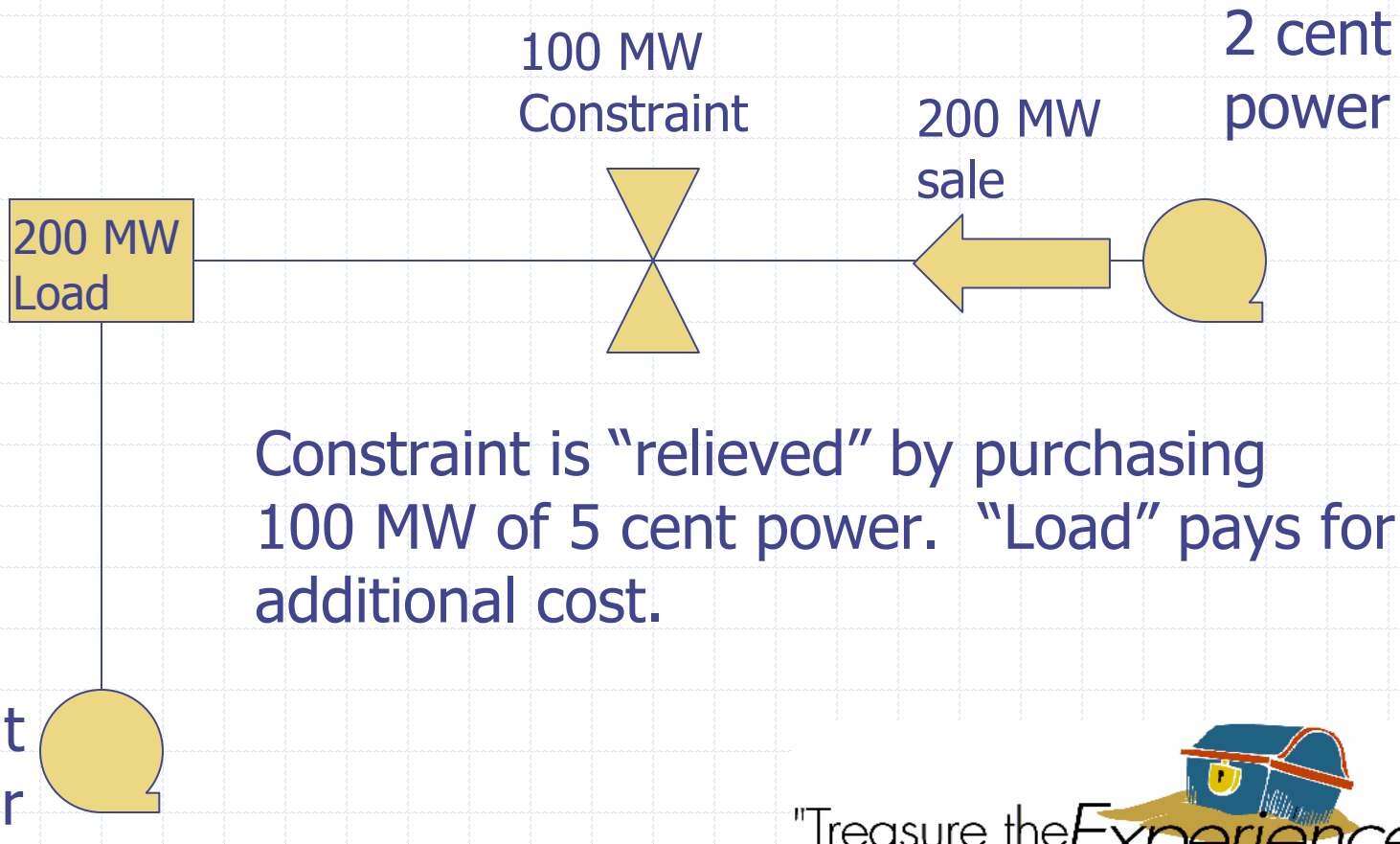
LMP 101



Constraint is "relieved" by purchasing 100 MW of 5 cent power. "Load" pays for additional cost.

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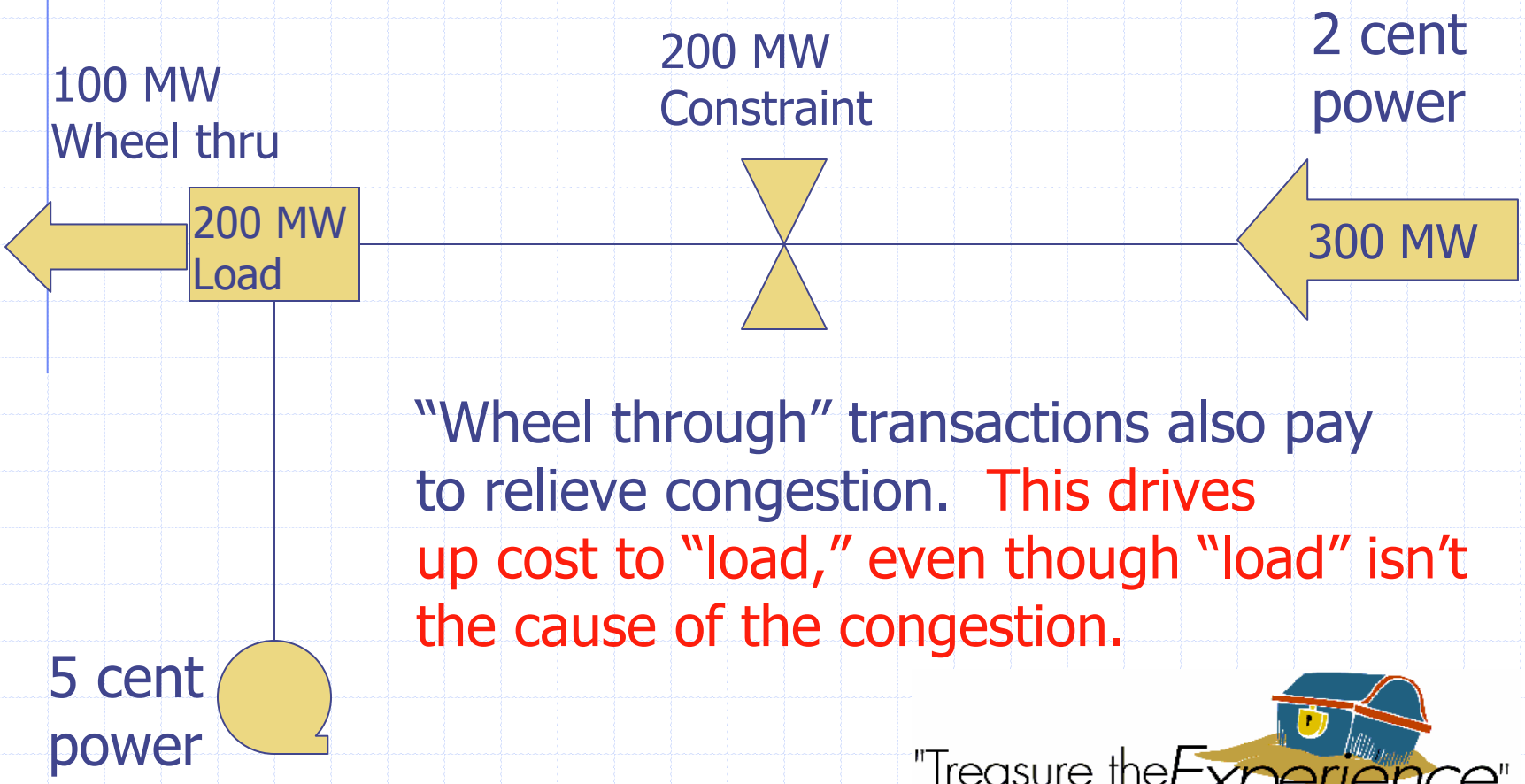
LMP 102



"Wheel through" transactions also pay to relieve congestion. This drives up cost to "load," even though "load" isn't the cause of the congestion.

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LMP 103

- Congestion "hedges" are needed because transmission congestion will drive up costs an uncertain amount. (If utility/marketer has a "fixed" price to a customer, someone has to absorb the price risk due to potential congestion.)
- ITP will create "congestion revenue rights, CRRs" to hedge price risk.
- A CRR gives the holder the "right" to "extra" congestion revenues (to offset higher costs).
- CRRs will be "allocated" to existing transmission rights owners.
- CRRs will be traded on secondary markets.
- New transmission investors will receive CRRs for their investment.
- If CRRs are needed to "fix" retail prices, it will increase those prices.

Establish procedures to assure resource adequacy

- Load serving entities must provide evidence of adequate energy and ancillary services to meet obligations.
  - Short term "errors" in loads/resources may be corrected through ITP's spot markets (but at an uncertain price).
  - Long term obligations must have matching long term plans to support them.
  - Demand side measures should be part of plans.
  - Reliance on transmission must be supported as well.

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Require ITP to prepare long term load/resource plan

- ITP must prepare "long term" load/resource plan.
- Plan horizon set by ITP, but must be long enough to allow for construction of needed resources (min. 3 yrs.).
- Plan must be "regional" in scope (could include multiple ITPs) and reflect congestion risk (location of load/resource will be important too).
- "Loads" come from load serving entities. ITP must check to avoid double counting of loads/resources.
- Planned resources must be verifiable and can include demand side.

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Establishes Regional State Advisory Committees

- Regional coordination among states, utilities, and ITPs is required
- Regional State Advisory Committees of state regulators, FERC representatives, ITPs, etc. needed for coordination.
- RSAC will review ITP load/resource plans, etc. to establish support at state level for needed resources and acknowledge load at risk.
- NWPPC as an example.

Establish procedures to monitor and mitigate market power

- Long term plans and contracts should reduce opportunity to manipulate market prices.
- ITP will monitor spot market transactions and mitigate manipulation.
- FERC will backstop with new procedures based on CA experience.

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Clarify obligations for system security/reliability

- New role of "security coordinator" was created by FERC as part of RTO order.
- Various regions/utilities put this role in different places.
- FERC says "ITP will be security coordinator."

SMD Schedule

- Comments due November ’02 (except for some regions, then Jan ’03).
- Rule expected Spring ’03.
- Jurisdictional tariffs due ’03. Tariffs effective ’04?
- ITPs take over transmission operations Oct. ’04?

Prospects for SMD

- Nov. 5 “changes everything.”
- State opposition could derail entire proposal (less likely now).
- FERC allowing “regional solutions” (I thought that was why they wanted a “standard” design).
- Congress could provide FERC additional authority to implement SMD.
- Schedule is slipping (lost momentum?).

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What Does it Mean for Utilities?

- Regulated utilities will become Load Serving Entities (LSEs).
- LSEs will have to:
  - File load/resource plans with ITP
  - Confirm resources in those plans
  - Compete for access to all transmission
  - Pay for congestion & LMP
- Rates will change

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What Does It Mean for Feds?

- Rates may now include:
  - Congestion surcharges
  - Location surcharges.
- Feds can participate in more demand relief markets.
- Fixed rates may be a thing of the past.
- It will be harder to plan & budget.

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What Does it mean for Feds 2?

- "Direct served" customers of PMAs will become Load Serving Entities (LSEs)
- LSEs will have to:
  - File load/resource plans with ITP
  - Confirm resources in those plans
  - Compete for access to all transmission
  - Pay for congestion & LMP
  - Pay penalties for errors in plans
  - Be at risk of curtailment for errors.

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